STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R. GALLAGHER
COMMISSIONER

Mr. Michael Greene
Portland Water District
225 Douglass Street
P. O. Box 3553
Portland, Maine 04104-3553

January 10, 2006

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102075
Maine Waste Discharge License (WDL) Application #W002671-5M-F-M
Final Permit/License

Dear Mike:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

We would like to make you aware of the fact that your monthly Discharge Monitoring Reports (DMR) may not reflect the revisions in this permitting action for several months. However, you are required to report applicable test results for parameters required by this permitting action that do not appear on the DMR. Please see the attached April 2003 O&M Newsletter article regarding this matter.

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely,

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality

Enc.
cc: Stuart Rose, DEP/SMRO
[redacted]

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DMR Lag

(reprinted from April 2003 O&M Newsletter)

When the Department renews discharge permits, the parameter limits may change or parameters may be added or deleted. In some cases, it is merely the replacement of the federally issued NPDES permit with a state-issued MEPDES permit that results in different limits. When the new permit is finalized, a copy of the permit is passed to our data entry staff for coding into EPA's Permits Compliance System (PCS) database. PCS was developed in the 1970's and is not user-friendly. Entering or changing parameters can take weeks or even months. This can create a lag between the time your new permit becomes effective and the new permit limits appearing on your DMRs. If you are faced with this, it can create three different situations that have to be dealt with in different ways.

1. If the parameter was included on previous DMRs, but only the limit was changed, there will be a space for the data. Please go ahead and enter it. When the changes are made to PCS, the program will have the data and compare it to the new limit.

2. When a parameter is eliminated from monitoring in your new permit, but there is a delay in changing the DMR, you will have a space on the DMR that needs to be filled. For a parameter that has been eliminated, please enter the space on the DMR for that parameter only with "NODI-9" (No Discharge Indicator Code #9). This code means monitoring is conditional or not required this monitoring period.

3. When your new permit includes parameters for which monitoring was not previously required, and coding has not caught up on the DMRs, there will not be any space on the DMR identified for those parameters. In that case, please fill out an extra sheet of paper with the facility name and permit number, along with all of the information normally required for each parameter (parameter code, data, frequency of analysis, sample type, and number of exceedances). Each data point should be identified as monthly average, weekly average, daily max, etc. and the units of measurement such as mg/L or lb/day. Staple the extra sheet to the DMR so that the extra data stays with the DMR form. Our data entry staff cannot enter the data for the new parameters until the PCS coding catches up. When the PCS coding does catch up, our data entry staff will have the data right at hand to do the entry without having to take the extra time to seek it from your inspector or from you.

EPA is planning significant improvements for the PCS system that will be implemented in the next few years. These improvements should allow us to issue modified permits and DMRs concurrently. Until then we appreciate your assistance and patience in this effort.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

PORTLAND WATER DISTRICT EAST END WWTF PORTLAND, CUMBERLAND COUNTY, ME. PUBLICLY OWNED TREATMENT WORKS ME0102075 W002671-5M-F-M	**APPROVAL**	MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT AND WASTE DISCHARGE LICENSE **MODIFICATION & RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et seq. and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department) has considered the application of PORTLAND WATER DISTRICT (PWD), with its supportive data and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The Portland Water District (PWD) has requested a modification and renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit/Waste Discharge License (WDL) #W002671-5M-E-M which was issued on March 6, 2003, and is due to expire on March 6, 2008. The WDL approved the discharge of up to a monthly average of 19.8 million gallons per day (MGD) of secondary treated municipal waste water from the East End waste water treatment facility (East End WWTF) to the marine waters of Casco Bay, Class SC, in Portland, Maine. The WDL also authorized the discharge of primary treated waste water from the East End WWTF during wet weather events and untreated sanitary/storm water associated with 22 combined sewer overflow (CSO) outfalls throughout the collection system.

MODIFICATIONS REQUESTED

1. Change the monthly average flow limitation from 19.8 MGD to a "Report" only requirement.

2. Change the monitoring frequency for biochemical oxygen demand (BOD) and total suspended solids from 1/Day to 5/Week.

3. Incorporate the terms and conditions of the Department's October 9, 2005 rules referred to as Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*.

4. Revise applicable sections of the Fact Sheet such that it more accurately represents current conditions at the facility.

PERMIT SUMMARY

This permit carries forward all terms and conditions of the March 6, 2003, MEPDES permit/WDL with a few minor exceptions that include:

1. Changing the monthly average flow limitation from 19.8 MGD to a "Report" only requirement.

2. Changing the monitoring frequencies for BOD and TSS from 1/Day to 5/Week.

3. Incorporating the terms and conditions of the Department's October 9, 2005 rules referred to as Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*.

4. Revising applicable sections of the Fact Sheet such that it more accurately represents current conditions at the facility

The Department has determined that the domestic, commercial, and industrial waste waters discharged from the PWD's East End WWTF will receive best practicable treatment in accordance with secondary treatment standards for dry weather monthly average flows of up to 19.8 MGD and a peak wet weather flow rate of 25,600 gpm (36.8 MGD) and best practicable treatment in accordance with primary treatment standards for flow rates greater than 36.8 MGD. The Department finds that combined sewer overflows (CSO) are integral to the District's collection system also meet best practicable treatment standards based on an approved CSO abatement Master Plan pursuant to Department regulation Chapter 570, *Combined Sewer Overflow Abatement*. The Department has determined that the treatment facility discharge as permitted will meet State and Federal numeric and narrative water quality standards.

CONCLUSIONS

Primary and Secondary Treated Discharges

BASED on the findings in the attached Fact Sheet dated November 18, 2005, (revised December 20, 2005) and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 MRSA Section 464(4)(F), will be met, in that:

   a. Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   b. Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   c. The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   e. Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharges (including the 22 CSO's) will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of PORTLAND WATER DISTRICT, to discharge treated domestic, commercial, and industrial waste waters to Casco Bay, Class SC, and untreated sanitary/storm waters via 22 combined sewer overflows (CSO's) to Casco Bay, the Fore River, and Back Cove, Class SC, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*," revised July 1, 2002, copy attached.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. The permit expires five years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 10TH DAY OF JANUARY, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ FOR
~~David Littell, Acting~~ Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application February 25, 2005.

Date of application acceptance February 28, 2005.

FILED
JAN 17 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This document was prepared by Gregg Wood, Bureau of Land and Water Quality.

W26715MF 1/9/06

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date of the permit and lasting through permit expiration, the permittee is authorized to discharge secondary treated waste waters from **OUTFALL #001A** to Casco Bay.

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	Report MGD(1) *[03]*	Report MGD(1) *[03]*	Report MGD(1) *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
Biochemical Oxygen Demand (BOD_5) *[00310]*	4,954 lbs/Day *[26]*	7,431 lbs/Day *[26]*	Report lbs/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	5/Week *[05/07]*	24 Hr. Composite *[24]*
BOD % Removal (2) *[81010]*	---	---	---	85 % *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids (TSS) (2) *[00530]*	4,954 lbs/Day *[26]*	7,431 lbs/Day *[26]*	Report lbs/Day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	5/Week *[05/07]*	24 Hr. Composite *[24]*
TSS % Removal (2) *[81011]*	---	---	---	85 % *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	1/Day *[01/01]*	Grab *[GR]*
Fecal Coliform Bacteria (3) *[74055]*	---	---	---	15/100 ml(5) *[13]*	---	50/100 ml *[13]*	5/Week *[05/07]*	Grab *[GR]*
Fecal Coliform Bacteria (3) *[74055]*	---	---	---	---	---	50/100 ml *[13]*	1/Discharge Day(12) *[01/DS]*	Grab *[GR]*
Total Residual Chlorine(3,4) *[50060]*	---	---	---	0.1 mg/L *[19]*	---	0.27 mg/L *[19]*	2/Day *[02/01]*	Grab *[GR]*
pH (Std. Units) *[00400]*	---	---	---	---	---	6.0-9.0 *[12]*	1/Day *[01/01]*	Grab *[GR]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – OUTFALL #001A (cont'd)

SURVEILLANCE LEVEL - Beginning upon issuance of this permit and lasting through calendar year 2009.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[6]						
Acute – NOEL						
Mysidopsis bahia [TDM3E]	---	---	---	Report % [23]	1/2Years [01/2Y]	Composite [24]
Chronic – NOEL						
Arbacia punctulata [TBH3A]	---	---	---	Report % [23]	1/2 Years [01/2Y]	Composite [24]
Analytical chemistry [7] [50008]	---	---	---	Report ug/L [28]	1/2 Years [01/2Y]	Composite/Grab [24]

SCREENING LEVEL - Beginning calendar year 2010 and every five years thereafter.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[6]						
Acute – NOEL						
Mysidopsis bahia [TDM3E]	---	---	---	Report % [23]	2/Year[02/YR]	Composite [24]
Chronic – NOEL						
Arbacia punctulata [TBH3A]	---	---	---	Report % [23]	2/Year [02/YR]	Composite [24]
Analytical chemistry [7] [50008]	---	---	---	Report ug/L [28]	1/Quarter [01/90]	Composite/Grab [24]
Priority Pollutants [8] [50008]	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/Grab [24]

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

2. During the period beginning the effective date of the permit and lasting through permit expiration, the permittee is authorized to discharge **primary treated and disinfected waste waters** from **Outfall 001B**, when the influent to the waste water treatment facility exceeds an instantaneous flow rate of 25,600 gpm (36.8 MGD). Waste waters from this internal outfall are then conveyed to the receiving water via Outfall 001A. Such discharges may only occur in response to wet weather events when the flow rate through secondary treatment exceeds an instantaneous flow rate of 25,600 gpm (36.8 MGD) or in accordance with the most current approved High Flow Management Plan and shall be limited and monitored as specified below:

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD *[50050]*	Report (Total MGD) *[03]*	Report (MGD) *[03]*	---	---	Continuous *[99/99]*	Recorder *[RC]*
Surface Loading Rate(9) *[50997]*	---	Report (gpd/sf) *[07]*	---	---	1/Discharge Day(10) *[01/DS]*	Calculate *[CA]*
Overflow Use, Occurrences(11) *[74062]*	---	---	Report (# of days) *[93]*	---	1/Discharge Day(10) *[01/DS]*	Record Total *[RT]*
BOD *[00310]*	---	---	---	Report (mg/L) *[19]*	1/Discharge Day(10) *[01/DS]*	Composite *[CP]*
BOD5 % Removal *[81010]*	Report (%) *[23]*	---	---	---	1/Discharge Day(10) *[01/DS]*	Calculate *[24]*
TSS *[00530]*	---	---	---	Report (mg/L) *[19]*	1/Discharge Day(10) *[01/DS]*	Composite *[CP]*
TSS % Removal *[81011]*	Report (%) *[23]*	---	---	---	1/Discharge Day(10) *[01/DS]*	Calculate *[24]*
Fecal Coliform Bacteria *[74055]* (3,12)	---	---	---	200/100 ml *[13]*	1/Discharge Day(10) *[01/DS]*	Grab *[GR]*
Total Residual Chlorine *[50060]* (3)	---	---	---	0.3 mg/L *[19]*	1/Discharge Day(10) *[01/DS]*	Grab *[GR]*
pH (Standard Units) *[00400]*	---	---	---	Report (SU) *[19]*	1/Discharge Day(10) *[01/DS]*	Grab *[GR]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Sampling Locations:

Effluent receiving secondary treatment (Outfall #001A) shall be sampled for all parameters after the chlorine contact chamber(s).

Effluent receiving primary treatment (Outfall #001B) shall be sampled for all parameters after the chlorine contact chamber but prior to combining with the secondary treated waste stream.

Influent sampling for BOD_5 and TSS shall be sampled in the flow splitter box after screening and grit removal.

Any change in sampling location(s) must be reviewed and approved by the Department in writing.

Sampling –Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

1. **Flow** – Report flow in million gallons per day.

2. **Percent Removal** - The treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand for all flows receiving secondary treatment. The percent removal shall be based on monthly average concentration values. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L. The permittee is required to report percent removal on the monthly Discharge Monitoring Report (DMR) and is required to calculate and report percent removal on the Department's monthly "49 Form".

3. **Fecal coliform bacteria and total residual chlorine** - Limits and monitoring requirements apply year-round in order to protect the integrity of local shellfishing habitats and the health, safety, and welfare of the public.

4. **Total Residual Chlorine** (TRC) - TRC sampling and analysis shall be conducted using Amperometric Titration or to DPD Spectrophotometric Method. The EPA approved methods are found in Standard Methods for the Manual of Methods of Analysis of Water and Wastes, Method 4500-CL-E and Method 4500-CL-G or USEPA Manual of Methods of Analysis of Water and Wastes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

5. **Fecal coliform bacteria** – The monthly average limitation is a geometric mean limit and values shall be calculated and reported as such.

6. **Whole Effluent Toxicity (WET) Testing** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions set at levels to bracket the critical acute and chronic water quality thresholds of 4.8% and 2.4 % respectively – mathematical inverse of the acute and chronic dilution factors of 21:1 and 41:1 respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points.

   a. **Surveillance level testing** - Beginning upon issuance of the permit and lasting through calendar year 2009, the permittee shall conduct surveillance level WET testing at a minimum frequency of once every other year (1/2 Years). Testing shall be conducted in a different calendar quarter for each testing event. Acute tests shall be conducted on the mysid shrimp (*Mysidopsis bahia*) and chronic tests shall be conducted on the sea urchin (*Arbacia punctulata*).

   b. **Screening level testing** - Beginning calendar year 2010 and every five years thereafter, the permittee shall conduct screening level WET testing at a frequency of 2/Year. There shall be a minimum of six (6) months between testing events Acute tests shall be conducted on the mysid shrimp (*Mysidopsis bahia*) and chronic tests shall be conducted on the sea urchin (*Arbacia punctulta*).

All WET and supporting analytical test results shall be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 4.8% and 2.4%, respectively.

The permittee is also required to analyze the effluent for the parameters specified in the analytical chemistry on the form in Attachment A of this permit each time a WET test is performed.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following U.S.E.P.A. methods manuals.

a. Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Marine and Estuarine Organisms, Fifth Edition, October 2002, EPA 821-R-02-014.

b. Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Third edition, October 2002, EPA-821-R-02-012.

7. **Analytical chemistry** – Refers to a suite of chemical tests that include ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total lead, total nickel, total silver, total zinc and total residual chlorine.

   a. **Surveillance level testing** - Beginning upon issuance of the permit and lasting through calendar year 2009, the permittee shall conduct surveillance level analytical chemistry testing at a minimum frequency of once every other year (1/2 Years).

   b. **Screening level testing** - Beginning calendar year 2010, the permittee shall conduct screening level analytical chemistry testing at a minimum frequency of twice per year (1/Year). There shall be at least 45 days between sampling events.

Analytical chemistry testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment E of the Fact Sheet of this permit for a list of the Department's reporting limits. Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health ambient water quality criteria (AWQC) as established in Department rule Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

8. **Priority pollutant testing** – Priority pollutants are those parameters listed by Department rule, Chapter 525, Section 4(IV). **Beginning calendar year 2010 and every five years thereafter**, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year).

   Priority pollutant testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable. Priority pollutant testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment E of this Fact Sheet for a list of the Department's reporting limits. Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health AWQC as established in Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

   All mercury sampling required by this permit or required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

9. **Surface Overflow Rate** –For the purposes of this permitting action, is defined as the average hourly rate per overflow occurrence in a discharge day. The permittee should provide this information to establish data on the effectiveness of peak flows receiving primary treatment only.

10. **Discharge Day** - For the purposes of this permitting action, is any portion of a calendar day or any 24-hour period in which a discharge of treated excess combined sewer waste waters from Outfall #001B is occurring. Sampling for the parameters in Special Condition A(2) are not required unless the bypass event is greater than 30 minutes in duration.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

11. **Overflow occurrence** – For the purposes of this permitting action an overflow occurrence is defined as a bypass event greater than or equal to 30 minutes. If the event is greater than 30 minutes, samples must be taken within the next 30-minute period and end no sooner than 30 minutes after the event has ended. Overflow occurrences are reported in discharge days.

    For discharges exceeding one calendar day in duration, sampling shall be performed each day of the event according to the measurement frequency specified. For example, if a discharge event covers all or part of three calendar days, the permittee shall take three composite samples for BOD and TSS, initiating samples at the start of the discharge event and each subsequent calendar day and terminating samples at the end of the calendar day or at the end of the discharge event. Samples shall be flow proportioned.

    Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified. One composite sample for BOD5 and TSS shall be collected per discharge day and shall be of flow proportioned from each intermittent overflow during that 24-hour period. Only one grab sample for fecal coliform bacteria, total residual chlorine and pH is required to be collected per discharge day.

12. **Fecal coliform bacteria** – During each bypass event, the permittee is required to collect and analyze a grab sample of secondary treated effluent.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.

2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.

3. The discharge shall not impart color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsafe for the designated uses and characteristics ascribed to their classification.

4. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

SPECIAL CONDITIONS

C. DISINFECTION

If chlorination is used as the means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized followed by a dechlorination system if the imposed total residual chlorine (TRC) limit cannot be achieved by dissipation in the detention tank. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall provide a TRC concentration that will effectively reduce fecal coliform bacteria levels to or below those specified in Special Condition A, Effluent Limitation and Monitoring Requirements, of this permit.

D. TREATMENT PLANT OPERATOR

The waste water treatment facility must be operated under the direction of a person holding a minimum of a **Grade V** certificate [or Registered Maine Professional Engineer (PE)] pursuant to Title 32 M.R.S.A., Section 4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

E. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall 001A and the twenty-two (22) combined sewer overflow (CSO) outfalls. Outfall 001B is an internal waste stream that discharges through Outfall 001A. Discharges of waste water from any other point source are not authorized under this permit, but shall be reported in accordance with Standard Condition B(5)(*Bypass*) of this permit.

F. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

SPECIAL CONDITIONS

G. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month such that the DMR's are received or hand-delivered to the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the following address:

Department of Environmental Protection
Bureau of Land & Water Quality
Division of Water Quality Management
312 Canco Road
Portland, Maine 04103
Attn: Facility Inspector

Additional monthly reporting requires submitting an electronic version of *"DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifiers or DEP-49-CSO Form For Use With Non-Dedicated CSO Primary Clarifiers"* (Attachment B of this permit) to the Department inspector at the address above and to the CSO Coordinator at the address below:

CSO Coordinator
Department of Environmental Protection
Bureau of Land & Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@maine.gov

H. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of the following:

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants to the system at the time of permit issuance.

SPECIAL CONDITIONS

H. NOTIFICATION REQUIREMENT (cont'd)

3. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and

   b. Any anticipated impact of the change in the quantity or quality of the waste water to be discharged from the treatment system.

I. OPERATIONS AND MAINTENANCE (O&M) PLAN

This facility shall have a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the waste water treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and EPA personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the waste water treatment facility (excepting the current yet to be completed substantial upgrade), the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

J. WET WEATHER MANAGEMENT PLAN

The treatment facility staff shall develop and maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. The plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

The permittee shall review their plan annually and record any necessary changes to keep the plan up to date.

SPECIAL CONDITIONS

K. DISPOSAL OF SEPTAGE WASTE IN WASTEWATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream **a maximum of 24,000 gallons per day** of septage, subject to the following terms and conditions:

1. This approval is limited to methods and plans described in the application and supporting documents. Any variations are subject to review and approval prior to implementation.

2. At no time shall addition of septage cause or contribute to effluent quality violations. If such conditions do exist, the introduction of septage into the treatment process or solids handling stream shall be suspended until effluent quality can be maintained.

3. The permittee shall maintain records which shall include, as a minimum, the following by date: volume of septage received, source of the septage (name of municipality), the hauler transporting the septage, the dates and volume of septage added to the waste water treatment influent and test results.

4. Addition of septage into the treatment process or solids handling stream shall not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of septage into the treatment process or solids handling stream shall be reduced or terminated in order to eliminate the overload condition.

5. Septage known to be harmful to the treatment processes shall not be accepted. Wastes which contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation shall be refused.

6. During wet weather events, septage may be received into the septage holding facilities but shall not be added to the treatment process or solids handling facilities.

7. Except as noted in item #9 below, holding tank waste water shall not be recorded as septage and should be reported in the treatment facility's influent flow.

8. Any trucked-in waste that has the characteristics of septage, specifically with regard to biochemical oxygen demand (5,000 mg/L or greater) and total suspended solids (10,000 mg/L or greater) shall be considered as septage and is subject to the above mentioned 24,000-gallon per day limit.

9. If conditions change within the permittee's septage management program, the permittee shall provide the Department with an updated septage management plan that reflects such changes, pursuant to Department rule, Chapter 555, *Standards for the Addition of Septage to Waste Water Treatment Facilities.*

SPECIAL CONDITIONS

L. EFFLUENT LIMITATIONS AND CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSO's)

Pursuant to Chapter 570 of Department Rules, *Combined Sewer Overflow Abatement,* the permittee is authorized to discharge from the following locations of combined sewer overflows (CSO's) (stormwater and sanitary wastewater) subject to the conditions and requirements herein.

1. CSO locations

Outfall # (PWD #)	Regulator Location	Outfall Location	Receiving Water and Class
002 (022)	Arcadia St. Pump Station	Arcadia St.	Presumpscot River, SC
004 (026)	Tukey's Bridge North	Tukey's Bridge North	Casco Bay, SC
005 (010)	Baxter Blvd. (Washington Ave.)	Baxter Blvd.	Back Cove, SC
007 (011)	Ocean Ave.	Baxter Blvd Pump Station (East Side Interceptor)	Back Cove, SC
008 (020)	Clifton St.	Baxter Blvd. at Clifton St.	Back Cove, SC
009 (012)	Baxter Blvd. at George St.	Baxter Blvd. at George St.	Back Cove, SC
010 (014)	Mackworth St.	Baxter Blvd. at Macworth St.	Back Cove, SC
011 (017)	Codman St. and Chenery St.	Baxter Blvd. at Codman St.	Back Cove, SC
012 (018)	Vannah Ave.	Baxter Blvd at Vannah Ave.	Back Cove, SC
015 (019)	Dartmouth St.	Baxter Blvd. at Dartmouth St.	Back Cove, SC
016 (021)	Bedford St. at Forest Ave.	Baxter Blvd. near Preble St.	Back Cove, SC
020 (024)	Northeast Pump Station, Tukey's Bridge south	Northeast Pump Station, Tukey's Bridge south	Casco Bay, SC
023 (003)	India St. Pump Station	India St. & Commercial St.	Fore River, SC
025 (004)	Commercial St. at Long Wharf	Commercial St. at Long Wharf	Fore River, SC

SPECIAL CONDITIONS

L. EFFLUENT LIMITATIONS AND CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSO's)

027 (005)	Commercial St. at Clark St.	Commercial St. at Clark St.	Fore River, SC
028 (006)	W. Commercial St. at Emery St.	W. Commercial St. at Emery St.	Fore River, SC
029 (007)	W. Commercial St. at K St.	W. Commercial St. at K St.	Fore River, SC
030 (008)	St. John St.	St. John St.	Fore River, SC
032 (028)	Thompson's Point Pump Station	Thompson's Point Pump Station	Fore River, SC
033 (009)	West Side Interceptor (pump station near Congress St.)	West Side Interceptor	Fore River, SC
034 (025)	Brewer St. at Cliff St.	Brewer St.	Fore River, SC
035 (029)	Stroudwater Rd.	Stroudwater Rd.	Fore River, SC

2. Prohibited Discharges

   a) The discharge of dry weather flows is prohibited. All such discharges shall be reported to the Department in accordance with Standard Condition D (1) of this permit.

   b) No discharge shall occur as a result of mechanical failure, improper design or inadequate operation or maintenance.

   c) No discharges shall occur at flow rates below the maximum design capacities of the wastewater treatment facility, pumping stations or sewerage system.

3. Narrative Effluent Limitations

   a) The effluent shall not contain a visible oil sheen, settled substances, foam, or floating solids at any time that impair the characteristics and designated uses ascribed to the classification of the receiving waters.

   b) The effluent shall not contain materials in concentrations or combinations that are hazardous or toxic to aquatic life; or which would impair the usage designated by the classification of the receiving waters.

   c) The discharge shall not impart color, turbidity, toxicity, radioactivity or other properties that cause the receiving waters to be unsuitable for the designated uses and other characteristics ascribed to their class.

SPECIAL CONDITIONS

L. EFFLUENT LIMITATIONS AND CONDITIONS FOR CSO'S (cont'd)

4. CSO Master Plan (see Sections 2 & 3 of Chapter 570 Department Rules)

   The permittee shall continue to work with the City of Portland to implement CSO control projects in accordance with an approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled *Combined Sewer Overflow Abatement Study Master Plan- City of Portland, Maine*, dated December 1993 (revised in January 1997) and abatement project schedule was approved on June 25, 1997. The abatement schedule was modified by a document entitled *City of Portland Tier II Combined Sewer Overflow Abatement 8-Year Implementation Plan,* dated February 5, 2003 and was approved by the Department on February 10, 2003. The abatement schedule may be amended from time to time based on mutual agreements between the permittee and the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

5. Nine Minimum Controls (NMC) (see Section 5 Chapter 570 of Department Rules)

   The permittee shall implement and follow the Nine Minimum Control documentation as approved by EPA on May 29, 1997. Work preformed on the Nine Minimum Controls during the year shall be included in the annual CSO Progress Report (see below).

6. CSO Compliance Monitoring Program (see Section 6 Chapter 570 of Department Rules)

   The permittee shall conduct block testing or flow monitoring according to an approved *Compliance Monitoring Program* on all CSO points, as part of the CSO Master Plan. Annual flow volumes for all CSO locations shall be determined by actual flow monitoring, or by estimation using a model such as EPA's Storm Water Management Model (SWMM).

   Results shall be submitted annually as part of the annual *CSO Progress Report* (see below), and shall include annual precipitation, CSO volumes (actual or estimated) and any block test data required. Any abnormalities during CSO monitoring shall also be reported. The results shall be reported on the Department form "CSO Activity and Volumes" (See Attachment B of this permit) or similar format and submitted to the Department on diskette.

   CSO control projects that have been completed shall be monitored for volume and frequency of overflow to determine the effectiveness of the project toward CSO abatement. This requirement shall not apply to those areas where complete separation has been completed and CSO outfalls have been eliminated.

SPECIAL CONDITIONS

L. EFFLUENT LIMITATIONS AND CONDITIONS FOR CSO'S (cont'd)

7. Additions of New Wastewater (see Section 8 Chapter 570 of Department Rules)

Chapter 570 Section 8 lists requirements relating to any proposed addition of wastewater to the combined sewer system. Documentation of the new wastewater additions to the system and associated mitigating measures shall be included in the annual *CSO Progress Report* (see below). Reports must contain the volumes and characteristics of the wastewater added or authorized for addition and descriptions of the sewer system improvements and estimated effectiveness.

8. Annual CSO Progress Reports (see Section 7 of Chapter 570 of Department Rules)

By March 1 of each year ***(PCS Event 11099)*** the permittee shall submit *CSO Progress Reports* covering the previous calendar year (January 1 to December 31). The CSO Progress Report shall include, but is not necessarily limited to, the following topics as further described in Chapter 570: CSO abatement projects, schedule comparison, progress on inflow sources, costs, flow monitoring results, CSO activity and volumes, nine minimum controls update, sewer extensions, and new commercial or industrial flows.

The CSO Progress Reports shall be completed on a standard form entitled "*Annual CSO Progress Report*", furnished by the Department, and submitted in electronic form, if possible, to the following address:

CSO Coordinator
Department of Environmental Protection
Bureau of Land and Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@maine.gov

9. Signs

If not already installed, the permittee shall install and maintain an identification sign at each CSO location as notification to the public that intermittent discharges of untreated sanitary wastewater occur. The sign must be located at or near the outfall and be easily readable by the public. The sign shall be a minimum of 12" x 18" in size with white lettering against a green background and shall contain the following information:

PORTLAND WATER DISTRICT
WET WEATHER
SEWAGE DISCHARGE
CSO # AND NAME

SPECIAL CONDITIONS

L. CONDITIONS FOR COMBINED SEWER OVERFLOW (cont'd)

10. Definitions

For the purposes of this permitting action, the following terms are defined as follows:

a. Combined Sewer Overflow - a discharge of excess waste water from a municipal or quasi-municipal sewerage system that conveys both sanitary wastes and storm water in a single pipe system and that is in direct response to a storm event or snowmelt.

b. Dry Weather Flows - flow in a sewerage system that occurs as a result of non-storm events or are caused solely by ground water infiltration.

c. Wet Weather Flows - flow in a sewerage system that occurs as a direct result of a storm event, or snowmelt in combination with dry weather flows.

M. INDUSTRIAL PRETREATMENT PROGRAM

1. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass-through the publicly owned treatment works (POTW) or interfere with the operation or performance of the works.

a. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW facilities or operation, are necessary to ensure continued compliance with the POTW's MEPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

180 days prior to the expiration date of this permit, *(PCS code 08799)* the permittee shall prepare and submit a written technical evaluation to the Department analyzing the need to revise local limits. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, bio-monitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the permittee shall complete the attached form (Attachment C of this permit) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 120 days of notification by the

SPECIAL CONDITIONS

M. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

Department and submit the revisions to the Department for approval. The permittee shall carry out the local limits revisions in accordance with EPA's most current guidance entitled, Local Limits Development Guidance (July 2004).

2. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, found at 40 CFR 403 and Department rule Chapter 528. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

   a. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

   b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

   c. Obtain appropriate remedies for noncompliance by an industrial user with any pretreatment standard and/or requirement.

   d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

   e. The permittee shall provide the Department with an annual report describing the permittee's pretreatment program activities for the twelve month period ending 60 days prior to the due date in accordance with federal regulation found at 40 CFR 403.12(i) and Department rule Chapter 528(12)(I). The **annual report** shall be consistent with the format described in Attachment C of this permit **and shall be submitted no later than July 1st of each calendar year.** ***(PCS code 6101L)***

   f. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with federal regulation found at 40 CFR 403.18(c) and Department rule Chapter 528(18).

   g. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the federal regulations found at 40 CFR 405 et. seq.

SPECIAL CONDITIONS

M. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

h. The permittee must modify its pretreatment program to conform to all changes in the federal regulations and State rules that pertain to the implementation and enforcement of the industrial pretreatment program. **180 days prior to the expiration date of this permit**, *(PCS code 50999)* the permittee must provide the Department in writing, proposed changes (if applicable) to the permittee's pretreatment program deemed necessary to assure conformity with current federal regulations and State rules. At a minimum, the permittee must address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending the Department's approval under federal regulation 40 CFR 403.18 and Department rule Chapter 528(18). This submission is separate and distinct from any local limits analysis submission described in section 1(a) above.

N. CHAPTER 530(2)(D)(4) CERTIFICATION

On or before December 31 of each year *[PCS code 95799]* the permittee is required to file a statement with the Department describing the following.

1. Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;
2. Changes in the operation of the treatment works that may increase the toxicity of the discharge; and
3. Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require that annual testing be re-instituted if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

O. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results in the Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded: (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

SPECIAL CONDITIONS

P. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **November 18, 2005**
Revised: **December 20, 2005**

PERMIT NUMBER: **ME0102075**
LICENSE NUMBER: **W002671-5M-F-M**

NAME AND ADDRESS OF APPLICANT:

Portland Water District
225 Douglass Road
Portland, Maine 04104-3553

COUNTY: **Cumberland County**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

East End Wastewater Treatment Facility
500 Marginal Way
Portland, Maine 04108

RECEIVING WATER(S)/CLASSIFICATION: **Casco Bay/Class SC**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Michael Greene**
(207) 774-5961 Ext. 3075

1. APPLICATION SUMMARY

The Portland Water District (PWD) has requested a modification and renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit/Waste Discharge License (WDL) #W002671-5M-E-M which was issued on March 6, 2003, and is due to expire on March 6, 2008. The WDL approved the discharge of up to a monthly average of 19.8 million gallons per day (MGD) of secondary treated municipal waste water from the East End waste water treatment facility (East End WWTF) to the marine waters of Casco Bay, Class SC, in Portland, Maine. The WDL also authorized the discharge of primary treated waste water from the East End WWTF during wet weather events and untreated sanitary/storm water associated with 22 combined sewer overflow (CSO) outfalls throughout the collection system.

2. MODIFICATIONS REQUESTED

a. Change the monthly average flow limitation from 19.8 MGD to a "Report" only requirement.

b. Change the monitoring frequencies for BOD and TSS from 1/Day to 5/Week.

c. Incorporate the terms and conditions of the Department's October 9, 2005 rules referred to as Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*.

d. Revise applicable sections of the Fact Sheet such that it more accurately represents current conditions at the facility.

3. PERMIT SUMMARY

a. Terms and conditions: This permit carries forward all terms and conditions of the March 6, 2003, MEPDES permit/WDL with a few minor exceptions that include:

1. Changing the monthly average flow limitation from 19.8 MGD to a "Report" only requirement.

2. Changing the monitoring frequencies for BOD and TSS from 1/Day to 5/Week.

3. Incorporating the terms and conditions of the Department's October 9, 2005 rules referred to as Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*.

4. Revise applicable sections of the Fact Sheet such that it more accurately represents current conditions at the facility.

The Department has determined that the domestic, commercial, and industrial waste waters discharged from the PWD's East End WWTF will receive best practicable treatment in accordance with secondary treatment standards for dry weather monthly average flows of up to 19.8 MGD and a peak wet weather flow rate of 25,600 gpm (36.8 MGD) and best practicable treatment in accordance with primary treatment standards for flow rates greater than 36.8 MGD. The Department finds that combined sewer overflows (CSO) are integral to the District's collection system also meet best practicable treatment standards based on an approved CSO abatement Master Plan pursuant to Department regulation Chapter 570, *Combined Sewer Overflow Abatement*. The Department has determined that the treatment facility discharge as permitted will meet State and Federal numeric and narrative water quality standards.

3. PERMIT SUMMARY (cont'd)

b. History: The most current relevant regulatory actions include the following:

May 23, 1991 – The USEPA issued a renewal of NPDES permit #ME0102075.

April 1995 - The PWD and USEPA entered into a Consent Order For Compliance (Docket #95-08). Corrective actions centered around CSO's and improvements to the treatment plant to maximize flows to the plant during wet weather events. For a more complete description of the corrective actions, see section 2(b)(2) below.

April 29, 1996 – The USEPA issued a letter to the PWD deeming their application for renewal of the NPDES permit complete for processing.

November 3, 1997 - The Department administratively modified the PWD's daily maximum fecal coliform bacteria limit from 15 colonies per 100 milliliters to 50 colonies per 100 milliliters to be consistent with the National Shellfish Sanitation Program.

May 23, 2000 – The Department administratively modified PWD's WDL by establishing interim average and maximum concentration limits of 35.3 part per trillion (ppt) and 53.0 ppt respectively, for mercury.

September 21, 2000 – The EPA issued a formal draft of NPDES permit renewal #ME0102075 for a 30-day comment period. The permit was never issued as a final document, therefore, the PWD has been operating the EEWTF pursuant to the terms and conditions the 5/23/91 permit and the 4/95 Consent Order.

December 8, 2000 – The Department issued WDL #W002671-5M-C-R for a five-year term.

April 11, 2002 – The PWD filed an application with the Department to modify and renew WDL #W002671-5M-C-R. The PWD requested the Department incorporate the terms and conditions of the MEPDES permitting program into the new MEPDES permit.

March 6, 2003 – The Department issued MEPDES permit #ME0102075/WDL #W002671-5M-E-M modification for a five-year term.

November 17, 2004 – The Department and PWD entered into a Consent Agreement to address past violations of former WDL's.

3. PERMIT SUMMARY (cont'd)

February 25, 2005 – The PWD submitted an application to the Department to modify MEPDES permit #ME0102075/WDL #W002671-5M-E-M.

c. Combined Sewer Overflows

January of 1991 - The PWD and the City of Portland (City) entered into an Administrative Consent Agreement and Enforcement Order with the Maine Board of Environmental Protection in order to address the discharge of untreated wastewater from the City's collection system through CSO's. The Consent Agreement set forth guidelines for the development and implementation of a long term program for evaluation and abatement of both District maintained and City CSO discharges from their sewerage systems.

December of 1993 - The PWD and City submitted a CSO Abatement Master Plan prepared by CH2M-Hill to the Department for review and approval. Approval of this plan was withheld pending more detailed project descriptions as well as design and construction schedules for the first two-to-three years of implementation. Among other recommendations, the CSO Abatement Master Plan called for pump station improvements and an increase in the waste water treatment plant flow capacity from 60 MGD to 80 MGD so that increased amounts of wet weather flow could be conveyed to and treated at the waste water treatment plant rather than being discharged untreated through CSO's. The Master Plan recommended that treatment plant flows up to 36.8 MGD receive full secondary treatment and that flows exceeding 36.8 MGD up to 80 MGD will be bypassed to disinfection facilities following primary treatment.

April 1995 - The PWD entered into a Consent Order For Compliance with the USEPA (Docket #95-08). This Consent Order established a schedule of compliance deadline for the design and completion of CSO abatement related upgrades to the East End WWTF and the India Street and Northeast Pump stations, including flume upgrade, increasing primary bypass piping size, and installation of high rate disinfection and mixing equipment and controls. The Consent Order also set forth interim CSO-related bypass monitoring conditions including monitoring of the primary bypass effluent and calculating a combined secondary and primary effluent. The upgrades specified in the Consent Order have been completed.

January 1997 - A revised five-year CSO Abatement Plan and Schedule for the years 1997 through 2001, prepared by DeLuca-Hoffman Associates, Inc., was submitted to the Department. This plan together with the original CSO Master Plan was approved by both the USEPA and the Department on June 25, 1997.

July 3, 1997 - On behalf of the City, the PWD submitted the *Portland 1997 CSO Monitoring Plan*, which was approved by the Department.

3. PERMIT SUMMARY (cont'd)

May 31, 2005 – As required by the 11/17/04 Consent Agreement, the PWD submitted a report to the Department entitled, Operational Assessment Investigation and Improvement Plan For The East End Wastewater Treatment Facility.

d. Source Description: The PWD's East End WWTF located at 500 Marginal Way in Portland, (see Attachment A of this Fact Sheet) currently treats domestic, industrial, and commercial waste waters from the surrounding City and has the potential to accept flows from the Town of Falmouth by agreement. The permittee has significant industrial users currently contributing to the waste stream for which pretreatment of their waste waters is required and monitored. The District has an approved pretreatment program developed in accordance with federal regulations found at 40 CFR Section 403. The largest industrial user is Maine Medical Center in Portland.

The City of Portland and Portland Water District jointly operate and maintain the combined sewer collection system. The City owns and operates the sewer collector system and the District owns and operates the sewer interceptors and treatment facilities. The collection system does not have sufficient capacity to transport the volume of inflow and infiltration of water experienced during periods of rainfall and snow melt. The District has legal responsibility for 22 of the 38 CSO's. During wet weather, the permittee is authorized to discharge untreated storm water/ sanitary waste water from the 22 (currently) CSO's to Casco Bay, the Fore River, and Back Cove. The facility is so configured as to maintain peak secondary treatment up to 36.8 MGD for short periods. If this sustained flow is exceeded, a CSO-related bypass can be activated on-site to allow for primary treatment and disinfection of the excess waste water up to 80 MGD (36.8 MGD through secondary plus 43.2 MGD through primary). In May of calendar year 2003, the East End WWTF chief operator submitted a wet weather high flow plan to the Department. The plan was approved in that same month by the Department inspector assigned to the East End WWTF.

The facility is currently authorized to receive septage each day to the equivalent of 4,000 lbs/day of BOD_5 or 8,000 lbs/day of TSS or 24,000 gallons per day. For a more complete description of the derivation of the limits see the discussion WDL #W002671-5M-C-R issued by the Department on December 8, 2000.

d. Waste Water Treatment: The PWD owns and operates a conventional activated sludge treatment plant which provides a secondary level of treatment. Influent flow to the plant comes from two major pump stations, India Street Pump Station and Northeast Pump Station. These flows combine on-site and enter the headworks building where the influent is initially screened and grit is removed. The flow then enters a distribution box where it is measured via two sonic level detectors and then split between three separate treatment trains each consisting of a rectangular primary settling basin, an aeration basin, and circular secondary clarifier. The secondary effluent then combines and is chlorinated in two chlorine detention basins, then dechlorinated, before being discharged to Casco Bay through an outfall pipe

3. PERMIT SUMMARY (cont'd)

measuring 48 inches in diameter with diffusers. See Attachment B of this Fact Sheet for a schematic of the waste water treatment facility.

On March 18, 1998, the PWD issued a final report on a Comprehensive Plant Evaluation (CPE) prepared by Woodard and Curran. The CPE provided the PWD with recommendations on improving facility performance and reliability and maintaining compliance with permit conditions in a cost effective manner. The PWD is in the sixth year of a multi-year plan to implement capital improvements recommended in the CPE. To date, the PWD has upgraded all three secondary clarifiers, installed flow and residual paced chlorination/dechlorination controls for the chlorine contact tanks, installed a high speed mixing device at the head of each chlorine contact tank, upgraded the screening and de-gritting mechanisms of the headworks, upgraded all three of the primary sedimentation basins to provide a higher level of treatment during wet weather events and installed an odor control system that processes off-gases from the headworks to the aeration influent channels. Installation of a dewatering system utilizing rotary presses and odor control has also been completed.

When the secondary flow rate reaches 25,600 gpm (36.8 MGD) a valve opens and diverts up to 43.2 MGD out of the primary effluent channel to the CSO related secondary bypass. That bypass is then chlorinated and dechlorinated in two detention basins and then is combined with secondary treated effluent flow before discharging to a common outfall pipe designated as Outfall #001A.

The facility thickens primary sludge in two circular sludge tanks before the sludge is pumped to a holding tank. It is then blended with gravity belt thickened secondary sludge and pumped to rotary presses for dewatering. Biosolids are removed to landfill or composting site by contract with New England Organics.

4. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

5. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A., Section 465-B states that Casco Bay, Back Cove, Fore River, and Presumpscot River, all of which are Class SC, shall be suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and restricted harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation and navigation and as habitat for fish and other estuarine and marine life. Discharges to Class SC waters may cause some changes to estuarine and marine life provided that the receiving waters are of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

6. RECEIVING WATER QUALITY CONDITIONS

Table Category 3 entitled, *Estuarine and Marine Water With Insufficient Data or Information to Determine Attainment*, in a document entitled, State of Maine Department of Environmental Protection, 2004 Integrated Water Quality Monitoring and Assessment Report, published by the Department lists the Portland-Falmouth area (DMR area #14) Class SB/SC with insufficient data to determine attainment. Attainment in this context is in regard to the designated use of harvesting of shellfish. Currently, DMR shellfish harvesting area #14 is closed to the harvesting of shellfish due to insufficient (limited) ambient water quality data to meet the standards in the National Shellfish Sanitation Program. Therefore, area #14 remains closed. Compliance with the fecal coliform bacteria limits in this permitting action which are being carried forward from the previous licensing action ensure that the PWD East End WWTF will not cause or contribute to the shellfish harvesting closure.

In addition, the East End area of Portland and Back Cove are listed on Table 4- B2 entitled, *Estuarine and Marine Waters With Combined Sewer Overflows and Current Master Plans For Abatement*, in the above referenced document. As a result, CSO discharges in these areas are authorized by this permitting action as the permittee has satisfied the criteria established in Department rule, Chapter 570, Combined Sewer Overflow Abatement.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

1. Flow – The previous permitting action established a monthly average dry weather flow limit of 19.8 MGD and a sustained secondary wet weather flow limit of 36.8 MGD. Both limitations are based on the design capacity of the treatment facility. During extended wet weather events (several weeks or months), the PWD has historically violated the monthly average flow limitation due to the fact that it is required to treat a minimum of 36.8 MGD. Therefore, the Department is changing the monthly average limit to a reporting requirement and establishing a new weekly average reporting requirement. Regulating the discharge in this manner in no way shall be construed to represent any change to design loading criteria of the waste water treatment facility.

2. Dilution Factors - Department Regulation Chapter 530, "*Surface Water Toxics Control Program*", §4(2)(a) states that for discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.

   In 1996, a dye study was performed by Camp Dresser and McKee, but due to certain water column stratification problems occurring during the dye study, the results were not conclusive. Camp Dresser and McKee performed another dilution study in 1997, and published the results in their May 1998 Report: *"Dilution Study--Portland Water District Wastewater Treatment Facility Outfall."*

   The Department reviewed the Camp Dresser and McKee (CDM) report as part of the 12/08/00 WDL renewal and has used their findings to make a determination of the applicable dilutions for the East End WWTF. Based on adjustments to the findings in the CDM report on file with the Department and a more recent statistical analysis of the flows discharged by the treatment facility, the Department has determined the discharge will be diluted by the following factors:

   Acute = 21:1 Chronic = 41:1 Harmonic mean [(1)] = 123:1

Footnote:

(1) Pursuant to Department rule Chapter 530, "*Surface Water Toxics Control Program*", §4(2)(c), the harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by a factor of three (3).

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Calculations were based on interpretation of the CORMIX model whose parameters include facility discharge flows of 25 MGD (monthly average flow), outfall/diffuser configuration (48" outfall pipe with diffuser); and in-stream mixing characteristics (based on 15 minute travel time) determined from modeling and field investigation reported in the CDM study mentioned above.

3. Biochemical Oxygen Demand (BOD) & Total Suspended Solids (TSS): The previous permitting action established monthly average and weekly average concentration limits of 30 mg/L and 45 mg/L respectively and are being carried forward in this permitting action. These limits were and are based on secondary treatment requirements in the Federal Water Pollution Control Act (Clean Water Act) of 1977 §301(b)(1)(B), federal regulation found at 40 CFR Part 133.102 and Department rule Chapter 525 (3)(III). The previous permit also established a daily maximum concentration limit of 50 mg/L that is being carried forward in this permitting action and is based on a Department best practicable treatment requirement common to all WDL's for publicly owned treatment works permitted by the Department. The monthly average and weekly average mass limits in the previous permitting action are being carried forward in this permitting action and are based on a flow limitation of 19.8 MGD and the applicable concentration limits. BOD and TSS mass loading calculations at 19.8 MGD are as follows:

Monthly average = (30 mg/L) (19.8 MGD) (8.34) = 4,954 lbs/day
Weekly average = (45 mg/L) (19.8 MGD) (8.34) = 7,431 lbs/day

It is noted that no daily maximum mass limits for BOD and TSS have been established in this permit (or the previous permit) due to the presence of CSO's in the collection system. Establishing such a limit would likely discourage the PWD from treating as much waste water as the plant can physically treat during wet weather event.

This permitting action also carries forward the requirement of 85% removal for BOD and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3).

Monitoring frequencies for BOD and TSS of 5/week in the previous licensing action are being carried forward in this permitting action and are based on Department policy for facilities with a monthly average flow greater than 5.0 MGD.

4. Settleable Solids - The previous permitting action established a daily maximum concentration limit of 0.3 ml/L for settleable solids that is being carried forward in this permitting action and is considered best practicable treatment (BPT).

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

5. Fecal coliform bacteria – The previous permitting action established a year-round monthly average and daily maximum limits of 15 colonies/100 ml and 50 colonies/100 ml respectively, that are being carried forward in this permitting action. The limits are based on the Water Classification Program criteria for the receiving waters (including standards in the National Shellfish Sanitation Program) and requires application of the best practicable treatment.

6. Total Residual Chlorine (TRC) – Best practicable treatment limitations for TRC established in the previous licensing action are being carried forward in this permitting action. Limits on total residual chlorine are specified to ensure attainment of the in-stream water quality criteria for levels of chlorine and that the best practicable treatment technology is utilized to abate the discharge of chlorine. Total residual chlorine limits are based on the State's 2005 acute and chronic ambient water quality criteria for marine waters (0.013 mg/L and 0.0075 mg/L respectively) and the applicable dilution factors, 21:1 (acute) and 41:1 (chronic).

   Calculated Water Quality-based Total Residual Chlorine limits:

   Maximum Daily = (marine acute criteria)(acute dilution)
   = (0.013 mg/L)(21) = 0.27 mg/L

   Monthly Average = (marine chronic criteria)(chronic Dilution)
   = (0.0075 mg/L)(41) = 0.31 mg/L

   To meet the water quality based limits calculated above, the permittee must dechlorinate the effluent prior to discharge. The Department has established a daily maximum best practicable treatment limitation of 0.3 mg/L for facilities that need to dechlorinate their effluent unless calculated water quality based limits are lower than 0.3 mg/L. Being that the water quality based limit of 0.27 mg/L is lower than the technology based limit of 0.3 mg/L, the water quality based limit is imposed. As for the monthly average limitation, the Department's best practicable treatment limitation is 0.1 mg/L. Being that the calculated water quality based limit is higher than 0.1 mg/L, the best practicable treatment limitation is imposed. TRC is monitored twice daily according to Department policy.

7. pH – The previous permitting action established a pH range limitation of 6.0 –9.0 standard units pursuant to Department rule found at Chapter 525(3)(III)(c). The limits are considered best practicable treatment and is being carried forward in this permitting action.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

8. Mercury: Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying the WDL by establishing interim monthly average and daily maximum effluent concentration limits of 35.3 parts per trillion (ppt) and 53.0 ppt, respectively, and a minimum monitoring frequency requirement of four tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. It is noted that the mercury effluent limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as the limits and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable and modifications to the limits and/or monitoring frequencies will be formalized outside of this permitting document pursuant to Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519.

9. Whole Effluent Toxicity (WET) & Chemical-Specific Testing: Maine law, 38 M.R.S.A., Sections 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants* set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

   WET, priority pollutant and analytical chemistry testing, as required by Chapter 530, is included in this permit in order to fully characterize the effluent. This permit also provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment and WET monitoring is required to assess and protect against

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Priority pollutant and analytical chemistry testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria as established in Chapter 584.

Chapter 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

1) Level I – chronic dilution factor of <20:1.
2) Level II – chronic dilution factor of ≥20:1 but <100:1.
3) Level III – chronic dilution factor ≥100:1 but <500:1 or >500:1 and Q ≥1.0 MGD
4) Level IV – chronic dilution >500:1 and Q ≤1.0 MGD

Department rule Chapter 530 (1)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the PWD facility falls into the Level II frequency category as the facility has a chronic dilution factor ≥20:1 but <100:1. Chapter 530(1)(D)(1) specifies that surveillance and screening level testing requirements are as follows:

Screening level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	2 per year	1 per year	4 per year

Surveillance level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	1 per year	None required	2 per year

A review of the data on file with the Department for the PWD indicates that to date, it have fulfilled the WET and chemical-specific testing requirements of the former Chapter 530.5. See Attachment C of this Fact Sheet for a summary of the WET test results and Attachment D of this Fact Sheet for a summary of the chemical-specific test dates.

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

WET test evaluation

Chapter 530 §(3)(E) states "*For effluent monitoring data and the variability of the pollutant in the effluent, the Department shall apply the statistical approach in Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.) to data to determine whether water-quality based effluent limits must be included in a waste discharge license. Where it is determined through this approach that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*"

On December 21, 2005, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department in accordance with the statistical approach cited above. The statistical evaluation indicates the discharge from the permittee's waste water treatment facility does not exceed or have a reasonable potential to exceed the critical acute (4.8%) or chronic (2.4%) water quality thresholds for any of the WET species tested to date. Therefore, no numeric limitations for any WET species tested to date are being established in this permitting action.

Chapter 530 (2)(D)(3)(c) states "*Dischargers in Level II may reduce surveillance testing to one WET or specific chemical series every other year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E).*" The Department has determined the PWD qualifies for the reduction in WET testing. Therefore, this permit is establishing surveillance level WET testing as follows.

Beginning upon issuance and lasting through calendar year 2009

Level	WET Testing
II	1 per 2 years

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Outfall #001A – Secondary Treatment

Chapter 530 (2)(D) states:

(4) All dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.

(a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;
(b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and
(c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Special Condition N, *Chapter 530 (2)(D)(4) Certification,* of this permitting action requires the permitee to file an annual certification with the Department.

Pursuant to Chapter 530 (1)(D), screening level testing is being established as follows:

Beginning calendar year 2010 and every five years thereafter

Level	WET Testing
II	2/Year

It is noted however that if future WET testing results indicates the discharge exceeds critical water quality thresholds this permit will be reopened pursuant to Special Condition M, *Reopening of Permit For Modification*, of this permit to establish applicable limitations and monitoring requirements.

Chemical specific testing evaluation

Chapter 530 §(3)(E) states "*For effluent monitoring data and the variability of the pollutant in the effluent, the Department shall apply the statistical approach in Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.) to data to determine whether water-quality based effluent limits must be included in a waste discharge license. Where it is determined through this approach that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*"

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Outfall #001A – Secondary Treatment

Chapter 530 §3 states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

Chapter 530 §4(C), states "*The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions.*" *The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations.* The Department has very limited information on the background levels of metals in the water column in Casco Bay. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

Chapter 530 4(E), states "*In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity*". Therefore, the Department is reserving 15% of the applicable water quality criteria in the calculations of this permitting action.

Chapter 530 §(3)(E) states "*... that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*

On December 21, 2005, the Department conducted a statistical evaluation on the most recent 60 months of chemical test results on file with the Department in accordance with the statistical approach cited in Department rule Chapter 530. The statistical evaluation indicates the discharge from the permittee's waste water treatment facility does not exceed or have a reasonable potential to exceed any of the acute, chronic or human health ambient water quality criteria established in Department rule Chapter 584 for the parameters tested to date. Therefore, no numeric limitations for any of the elements or compounds tested to date are being established in this permitting action.

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Outfall #001A – Secondary Treatment

Chapter 530 (2)(D)(3)(c) states "*Dischargers in Level II may reduce surveillance testing to one WET or specific chemical series every other year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E).*" The Department has determined the PWD qualifies for the reduction in chemical testing. Therefore, this permit is establishing surveillance level analytical chemistry testing as follows.

Beginning upon issuance and lasting through calendar year 2009

Level	Priority pollutant testing	Analytical chemistry
III	N/A	1 per 2 years

Special Condition N, *Chapter 530 (2)(D)(4) Certification,* of this permitting action requires the permitee to file an annual certification with the Department.

Pursuant to Chapter 530 (1)(D), screening level testing is being established as follows:

Beginning calendar year 2010

Level	Priority pollutant testing	Analytical chemistry
III	1/Year	4 per year

It is noted however that if future chemical testing results indicate the discharge exceeds any of the acute, chronic or human health ambient water quality criteria established in Department rule Chapter 584, this permit will be reopened pursuant to Special Condition M, *Reopening of Permit For Modification*, of this permit to establish applicable limitations and monitoring requirements.

b. OUTFALL #001B - Primary Treated Effluent (Internal Waste Stream)

[See Special Condition A(2)]

Based on conditions imposed by the USEPA Consent Order, influent flow greater than the peak secondary flow rate of 25,600 gpm (36.8 MGD) shall be diverted through the CSO related bypass and be chlorinated and dechlorinated after receiving primary treatment. The total treatment capacity is 55,600 gpm (80 MGD). The primary treatment capacity is 30,000 gpm (43.2 MGD).

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

b. OUTFALL #001B - Primary Treated Effluent (Internal Waste Stream)

[See Special Condition A(2)]

For those excess combined sewer flows received at the treatment facility which are greater than that which can be treated to a secondary level of treatment, the Department has made a best professional judgment that primary treatment and disinfection constitute practicable and appropriate treatment. A daily maximum fecal coliform bacteria limit of 200 colonies per 100 ml is based on a Department best practicable treatment determination for primary treated waste water discharged to marine waters. Limits on total residual chlorine are specified to ensure attainment of marine water quality criteria for levels of chlorine and that the best practicable treatment technology is utilized to abate the discharge of chlorine. A technology based total residual chlorine limits has been established at 0.3 mg/L. As mentioned above, the facility has the ability to dechlorinate its primary bypass waste water and in this case, in order to set a high enough chlorine residual necessary for disinfection, the PWD will dechlorinate this effluent to achieve the 0.3 mg/L TRC limit.

c. Combined Sewer Overflows

This permit does not contain effluent limitations on the individual CSO outfalls listed in the table below. Department regulation Chapter 570, "*Combined Sewer Overflow Abatement*," states that for discharges from overflows from combined municipal storm and sanitary sewer systems, the requirement of "best practicable treatment" specified in Maine law, 38 M.R.S.A., section 414 A-1(D) may be met by agreement with the discharger, as a condition of its permit, through development of a plan within a time period specified by the Department. The PWD in collaboration with the City of Portland has submitted a Combined Sewer Overflow Abatement Study Master Plan and subsequent amendments that have been approved by USEPA and the Department on June 25, 1997. Both the PWD and the City have been actively implementing the recommendations of the Master Plan and to date have significantly reduced the volume of untreated combined sewer overflows to the receiving water.

The following are the locations for the District's Combined Sewer Overflows (CSO):

Outfall # (PWD #)	Regulator Location	Outfall Location	Receiving Water and Class
002 (022)	Arcadia St. Pump Station	Arcadia St.	Presumpscot River, SC
004 (026)	Tukey's Bridge North	Tukey's Bridge North	Casco Bay, SC
005 (010)	Baxter Blvd. (Washington Ave.)	Baxter Blvd.	Back Cove, SC

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

c. Combined Sewer Overflows

007 (011)	Ocean Ave.	Baxter Blvd Pump Station (East Side Interceptor)	Back Cove, SC
008 (020)	Clifton St.	Baxter Blvd. at Clifton St.	Back Cove, SC
009 (012)	Baxter Blvd. at George St.	Baxter Blvd. at George St.	Back Cove, SC
010 (014)	Mackworth St.	Baxter Blvd. at Macworth St.	Back Cove, SC
011 (017)	Codman St. and Chenery St.	Baxter Blvd. at Codman St.	Back Cove, SC
012 (018)	Vannah Ave.	Baxter Blvd at Vannah Ave.	Back Cove, SC
015 (019)	Dartmouth St.	Baxter Blvd. at Dartmouth St.	Back Cove, SC
016 (021)	Bedford St. at Forest Ave.	Baxter Blvd. near Preble St.	Back Cove, SC
020 (024)	Northeast Pump Station, Tukey's Bridge south	Northeast Pump Station, Tukey's Bridge south	Casco Bay, SC
023 (003)	India St. Pump Station	India St. & Commercial St.	Fore River, SC
025 (004)	Commercial St. at Long Wharf	Commercial St. at Long Wharf	Fore River, SC
027 (005)	Commercial St. at Clark St.	Commercial St. at Clark St.	Fore River, SC
028 (006)	W. Commercial St. at Emery St.	W. Commercial St. at Emery St.	Fore River, SC
029 (007)	W. Commercial St. at K St.	W. Commercial St. at K St.	Fore River, SC
030 (008)	St. John St.	St. John St.	Fore River, SC
032 (028)	Thompson's Point Pump Station	Thompson's Point Pump Station	Fore River, SC
033 (009)	West Side Interceptor (pump station near Congress St.)	West Side Interceptor	Fore River, SC
034 (025)	Brewer St. at Cliff St.	Brewer St.	Fore River, SC
035 (029)	Stroudwater Rd.	Stroudwater Rd.	Fore River, SC

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

d. Septage

The District's East End WWTF previous permit contained septage limits that are being carried forward in this permitting action and are based on mass loadings of total suspended solids (TSS) and biochemical oxygen demand (BOD). It is usually the practice to represent permitted septage conditions as volume of septage in gallons per day based on actual mass loadings projections. For documentation purposes, this Fact Sheet is incorporating the following language from the December 2000 Waste Discharge License.

In the expired license, the septage was limited to 8000 lbs/day of TSS and 4000 lbs/day of BOD, and no flow amount was specified. In back-calculating to obtain flow, two different flow limits can be derived. In this evaluation, the TSS loadings represent the most limiting factor and thus the 8000 lbs/day TSS loadings was used to calculate the recommended flow. The calculations were based on measured average mass concentrations for the East End WWTF calculated by the District: TSS = 20728 mg/L; BOD = 5925 mg/L. Using the TSS mass loading of 8000 lbs/day results in a calculated septage volume of approximately 46,000 gallons per day.

However, facility influent average BOD and TSS mass loadings are exceeding design influent loadings, based on data from the 1999 reporting year. The District may be found in violation of Department Rule Chapter 555, "Standards for Addition of Septage to Wastewater Treatment Facilities," if addition of septage has an adverse effect on sludge disposal practices or causes any design parameter of the facility to be exceeded. In the opinion of the Department, the recommended 46,000 gallons per day of septage, if received on a daily basis would greatly impact the facility both in maintaining secondary treatment and in keeping pace with sludge processing and removal. The District reported an average of 80,104 gallons per month of septage received at the East End WWTF during 1999. The District on average accepted approximately 4000 gallons per day in 1999, based on a five day work week, with a maximum septage receipt of 24,000 gallons on one day during September 1999. The District has maintained excellent removal rates at the East End WWTF and is in compliance with its secondary effluent limits. Based on these findings, the Department recommends setting a limit of 24,000 gallons per day of septage being introduced into the treatment process. This septage volume shall be contingent upon the District maintaining good removal rates and not incurring any sludge handling problems at the East End WWTF.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge from the East End WWTF will not cause or contribute to the failure of the waterbody to meet standards for Class SC classification. As for the the CSO's, the District's increased capacity to handle and treat wet weather generated influent flow through its CSO-related primary bypass will result in reductions of pollutant loadings from the PWD's and City's CSO discharge points and mitigate any adverse water impacts associated with such discharges.

9. PRETREATMENT

The permittee is required to administer a pretreatment program based on the authority granted under Federal regulations 40 CFR §122.44(j), 40 CFR Part 403 and section 307 of the Federal Water Pollution Control Act (Clean Water Act) and Department rule Chapter 528, *Pretreatment Program*. The permittee's pretreatment program received EPA approval on July 19, 1985 and as a result, appropriate pretreatment program requirements were incorporated into the previous National Pollutant Discharge Elimination System (NPDES) permit which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued.

Since issuance of the previous NPDES permit, the State of Maine has been authorized by the EPA to administer the federal pretreatment program as part of receiving authorization to administer the NPDES program. Upon issuance of this MEPDES permit, the permittee is obligated to modify (if applicable) its pretreatment program to be consistent with current federal regulations and State rules. Those activities that the permittee must address include, but are not limited to, the following: (1) develop and enforce Department approved specific effluent limits (technically-based local limits - lasted approved by the EPA on May 13, 1999; (2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with federal regulations and State rules; (3) develop an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant non-compliance for industrial users; and (6) establish a definition of and track significant industrial users.

These requirements are necessary to ensure continued compliance with the POTW's MEPDES permit and its sludge use or disposal practices.

In addition to the requirements described above, this permit requires that 180 days prior to the expiration date of the permit, the permittee shall submit to the Department in writing, a description of proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current federal and State pretreatment regulations and rules respectively. These requirements are included in the permit (Special Condition M)) to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. Lastly, by December 1 of each calendar year, the permittee must submit a pretreatment report detailing the activities of the program for the twelve-month period ending 60 days prior to the due date.

10. PUBLIC COMMENTS

Public notice of this application was made in the Portland Press Herald newspaper on or about February 23, 2005. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

11. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone (207) 287-3901

12. RESPONSE TO COMMENTS

During the period of November 23, 2005 through the date of issuance of this permit, the Department solicited comments on the proposed draft MEPDES permit/WDL for the discharge from the Portland Water District's East End waste water treatment plant. The Department did not receive comments from the permittee, state or federal agencies, or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. Therefore, the Department has not prepared a Response to Comments.